

REMARKS

This is a supplemental response to the final Office Action mailed on March 18, 2010. A request for examination (“RCE”) was previously submitted along with the response dated June 18, 2010. The Director is authorized to charge any fees that may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 3712161-88 on the account statement.

Claims 13-29, 31-33, 35-41 and 44-54 are pending in this application. Claims 1-12, 30, 34, 42-43 and 50 were previously canceled. In the Office Action, Claims 13-29, 31-33, 35-37, 44-49 and 51-53 are rejected under 35 U.S.C. §102; and Claims 38-41 are rejected under 35 U.S.C. §103. In response, Claim 13 has been amended, and Claim 53 has been canceled. The amendments do not add new matter. In view of the amendments and/or for the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn and the application now passed to allowance.

In the Office Action, Claims 13-29, 31-33, 35-37, 44-49 and 51-53 are rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 2003/0049474 to Su et al. (“*Su*”) in view of the publication on Leino (“*Leino*”). Applicants respectfully traverse the rejections for at least the reasons set forth below.

Independent Claim 13 has been amended to recite, in part, a polymer mixture consisting of at least one synthetic first polymer P(i) and between 3% to 14% by weight of at least one second polymer P(j). Claim 13 has been further amended to recite that the first polymer P(i) and the second polymer P(j) have been mixed together using a twin screw extruder. The amendments are supported in the specification, for example, at U.S. Patent Publication No. 2006/0148960, Figure 3 and paragraphs 41-42. In contrast, Applicants respectfully submit that the cited references fail to disclose or suggest each and every element of independent Claim 13.

“One way for a patent applicant to rebut a *prima facie* case of obviousness is to make a showing of ‘unexpected results,’ i.e., to show that the claimed invention exhibits some superior property or advantage that a person of ordinary skill in the relevant art would have found surprising or unexpected.” *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995). Applicants have surprisingly found that a polymer mixture consisting of at least one synthetic first polymer P(i) and between 3% to 14% by weight of at least one second polymer P(j) produced a compound

having an increased elongation at break when mixed in a twin screw extruder as compared to the first synthetic polymer alone. Applicants submit a Declaration under 37 C.F.R. §1.132 (the *Declaration*) clarifying the individual data points for the amounts of P(j) up to 20% shown in Figure 3 of the pending application.

The claimed invention is directed to the necessary conditions relating to the structure sizes of P(i) and P(j) as well as the conditions for preparing suitable mixtures thereof so that these two polymers can crystallise jointly under heterocrystallisation. As a result of the very short chain length, very highly crystallisable P(j) induces crystallinity in P(i) and a network is formed whose linking points are heterocrystals of P(i) and P(j) and whose connecting elements consist of chain segments of P(i). Under suitable preparation conditions, a material can be obtained from the mixture of P(i) and P(j), which compared with P(i) alone has a higher breaking elongation.

Su and *Leino* alone or in combination fail to disclose or suggest a polymer mixture consisting of at least one synthetic first polymer P(i) and between 3% to 14% by weight of at least one second polymer P(j) as required by independent Claim 13. In addition, *Su* and *Leino* alone or in combination fail to disclose or suggest the advantageous results of when the first polymer P(i) and the second polymer P(j) have been mixed together using a twin screw extruder in accordance with the present claims.

In sum, the cited references alone or in combination fail to disclose or suggest each and every element of independent Claim 13. Moreover, the cited references fail to even recognize the advantages, unexpected benefits and/or properties of a polymer mixture consisting of a molecularly dispersed mixture containing P(i) and P(j) mixed together using a twin screw extruder in accordance with the present claims. Consequently, independent Claim 13, along with any of the claims that depend from Claim 13, is novel and non-obvious over the cited references.

Accordingly, Applicants respectfully request that the anticipation and obviousness rejections with respect to the pending claims be reconsidered and the rejections be withdrawn.

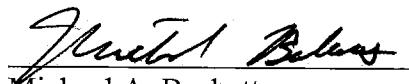
Claims 38-41 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Su* and *Leino* in further view of the publication to *Kokko*. Applicants respectfully submit that the patentability of Claim 13 as previously discussed renders moot the obviousness rejection of

Claims 38-41 that depends from Claim 13. In this regard, the cited art fails to teach or suggest the elements of Claims 38-41 in combination with the novel elements of Claim 13.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same. In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

K&L GATES LLP

BY 
Michael A. Beckett
Reg. No. 48,127
Customer No. 24573
Phone No. 312-781-6011

Dated: August 27, 2010